

**FOR THE SOUTH CAROLINA DEPARTMENT  
OF HEALTH AND ENVIRONMENTAL CONTROL**

\_\_\_\_\_  
Elizabeth A. Dieck  
Director of Environmental Affairs

Date: \_\_\_\_\_

\_\_\_\_\_  
Daphne G. Neel, Chief  
Bureau of Land and Waste Management

Date: \_\_\_\_\_

\_\_\_\_\_  
Van Keisler, P.G., Director  
Division of Compliance and Enforcement

Date: \_\_\_\_\_

Reviewed By:

\_\_\_\_\_  
Attorney  
Office of General Counsel

Date: \_\_\_\_\_

**WE CONSENT:**

**DUKE ENERGY CAROLINA, LLC**

\_\_\_\_\_  
(Signature)

Date: 7/25/17

John Elnitsky, Senior Vice President, Ash Basin Strategy  
(Please clearly print name and title)

THE STATE OF SOUTH CAROLINA  
BEFORE THE DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

---

IN RE: DUKE ENERGY CAROLINAS, LLC  
W.S. LEE STEAM STATION  
ANDERSON COUNTY

---

CONSENT AGREEMENT  
14 - - HW

---

This Consent Agreement is entered into between the South Carolina Department of Health and Environmental Control (SCDHEC or the Department) and Duke Energy Carolinas, LLC (Duke Energy) with respect to the investigation and remediation of two ash placement areas at the William States (W.S.) Lee Steam Station located at 205 Lee Steam Road, Belton, South Carolina in Anderson County (Tax Map Number 260-00-01-003-000). The Site shall include the "Inactive Ash Basin" and the "Ash Fill Area," and all areas where ash, other coal combustion residuals, or their constituents, including contaminants, (collectively Coal Combustion Residuals or CCR or ash) may have potentially migrated from these ash placement areas, collectively referred to as the "Site."

Duke Energy is entering into this Consent Agreement to assess and address any release or threat of release of Coal Combustion Residuals or other pollutants from the Site to the environment and to provide for the final disposition of the Site. Duke Energy will take all necessary steps in compliance with all environmental laws to prevent future releases from the Site. In the interest of resolving the matters herein without delay, Duke Energy agrees to the entry of this Consent Agreement without litigation and without the admission or adjudication of any issue of fact or law, except for purposes of enforcing this agreement. Duke Energy agrees that this Consent Agreement shall be deemed an admission of fact and law only as necessary for enforcement of this Consent

Agreement by the Department or in subsequent actions relating to this Site by the Department.

### FINDINGS OF FACT

Based on information known by the Department, the following findings of fact are asserted by the Department for purposes of this Consent Agreement:

1. Duke Energy owns and operates W.S. Lee Steam Station as a cycling station to supplement supply when electricity demand is high. Three (3) coal-fired units, which became operational in the 1950's, generate approximately 370 megawatts (MW) of electricity. Units 1 and 2 were introduced to service beginning in 1951 followed by Unit 3 in 1959. Two (2) combustion turbines (CTs) were added in 2007 and generate an additional approximate 84 MWs. The CTs use diesel fuel or natural gas as their fuel source and serve as emergency back-up power to Oconee Nuclear Station.
2. Prior to 1974, CCR was placed in the Inactive Ash Basin, which is an unregulated basin located south of the power plant. Constructed in 1951 and expanded in 1959, the Inactive Ash Basin was formed by an approximately 3,700 feet long rim dike that impounds approximately 19 acres. The dike has a maximum height of 60 feet above grade with a crest elevation of 690 feet above sea level.
3. CCR is believed to have been used in the past as backfill into a borrow area identified as the Ash Fill Area, which is located near the Inactive Ash Basin.
4. On May 1, 2014, Duke Energy initiated geotechnical characterization of the Inactive Ash Basin.
5. On May 30, 2014, Duke Energy submitted a plan for the geotechnical characterization on the Ash Fill Area.

### **CONCLUSIONS OF LAW**

The Department has the authority to implement and enforce laws and related regulations pursuant to the South Carolina Hazardous Waste Management Act, S.C. Code Ann. §44-56-10, et. seq. (Rev. 2002 and Supp. 2013), the Pollution Control Act, S.C. Code Ann. §48-1-10 et seq. (Rev. 2008 and Supp. 2013) and the South Carolina Solid Waste Policy and Management Act, S.C. Code Ann. §44-96-10, et. seq. (Rev. 2002 and Supp. 2013). These Acts authorize the Department to issue orders; assess civil penalties; conduct studies, investigations, and research to abate, control and prevent pollution; and to protect the health of persons or the environment.

NOW, THEREFORE IT IS AGREED, with the consent of Duke Energy and the Department, and pursuant to the South Carolina Hazardous Waste Management Act, the Pollution Control Act, and/or the Solid Waste Policy and Management Act, that Duke Energy shall:

1. Within ninety (90) days of receipt of this fully executed Consent Agreement, submit to the Department for review and approval, an Ash Removal Plan for the Site. The Ash Removal Plan shall include a time schedule for implementation of all major activities required by the Plan. The Ash Removal Plan must include, but is not limited to, characterization of the ash, provisions for the safe removal of the ash, management of storm water during the project, and management alternatives for the ash by either beneficial reuse or disposition in a South Carolina permitted Class 3 solid waste disposal facility or a facility meeting equivalent standards outside of South Carolina. The Ash Removal Plan shall also include an evaluation of the stability of the rim dike and any other slopes impounding the CCR placement areas during ash removal activities. Any comments generated through the Department's review of the Ash Removal Plan, must be addressed in writing by Duke Energy within fifteen (15) days of Duke Energy's receipt of said comments. Upon the Department's approval of the Ash Removal Plan and the time schedule for implementation thereof, the Ash Removal Plan

and schedule shall be incorporated herein and become an enforceable part of this Consent Agreement.

2. Submit, along with but under separate cover from the Ash Removal Plan, a Health and Safety Plan (HASP) consistent with Occupational Safety and Health Administration regulations. The HASP shall be submitted to the Department in the form of one (1) electronic copy (.pdf format). Duke Energy agrees the HASP is submitted to the Department for informational purposes only. The Department expressly denies any liability that may result from Duke Energy's implementation of the HASP.
3. Begin implementation of the Ash Removal Plan described in paragraph 1 within fifteen (15) days of Duke Energy's receipt of the Department's written approval of the Ash Removal Plan.
4. Upon completion of the work approved in the Ash Removal Plan, submit an Ash Removal Report to the Department. The Ash Removal Report shall summarize the activities taken during implementation of the Ash Removal Plan and shall contain appropriate documentation that ash has been removed from the Site in accordance with the Ash Removal Plan.
5. Within thirty (30) days of approval of the Ash Removal Report, submit an Assessment Plan to the Department. The Assessment Plan shall include, but is not limited to, the following: a description of work needed for the delineation of the vertical and horizontal extent of any contamination, including an assessment of surface water, groundwater, and soil underlying the Site; an evaluation of risks to human health and the environment; and a schedule for implementation.
6. Upon completion of the activities outlined in the approved Assessment Plan, submit to the Department an Assessment Report summarizing the findings of the investigations performed pursuant to the Assessment Plan. The Department shall review the Assessment Report to

determine completion of the field investigation and sufficiency of the documentation. If the Department determines that additional field investigation is necessary, Duke Energy shall conduct additional field investigation to complete such task. Alternatively, if the Department determines the field investigation to be complete, but the conclusions in Duke Energy's Assessment Report are not approved, Duke Energy shall submit a Revision to the Assessment Report within thirty (30) days after receipt of the Department's disapproval. The Revision shall address the Department's comments.

7. Within sixty (60) days of approval of the Assessment Report, submit to the Department a Closure Plan which details the actions to be taken for the final disposition of the Site, and evaluates the need for additional remediation of soils, surface water and groundwater. If remedial actions are necessary, Duke Energy shall also submit to the Department for approval a Remedial Plan, which includes a proposed remedy, justification for the proposed remedy, the design of the proposed remedy and a schedule for implementation. The schedule of implementation must extend through full completion of the remedy. The Closure Plan and, if necessary, the Remedial Plan shall be based upon the results of the field investigation, ash removal activities and the following seven (7) criteria:
  - a. Overall protection of human health and the environment;
  - b. Compliance with applicable or relevant and appropriate standards;
  - c. Long-term effectiveness and permanence;
  - d. Reduction of toxicity, mobility or volume;
  - e. Short-term effectiveness;
  - f. Implementability;
  - g. Costs.
8. Any comments generated through the Department's review of the Closure Plan and any required Remedial Plan must be addressed in writing by Duke Energy within fifteen (15) days of Duke Energy's receipt of said comments. This fifteen (15) day deadline may be

extended by mutual agreement of the parties if the comment resolution requires extensive revision, such as re-engineering. Upon Department approval of the Closure Plan, Remedial Plan and the implementation schedule, the Closure Plan, Remedial Plan, and implementation schedule shall be incorporated herein and become an enforceable part of this Consent Agreement.

9. Begin to implement the Closure Plan and the Remedial Plan within forty-five (45) days of the Department's approval of the Plans; and thereafter, take all necessary and reasonable steps to ensure timely completion of the Plans.
10. Upon Duke Energy's successful completion of the terms of this Consent Agreement, submit to the Department a written Final Report. The Final Report shall contain all necessary documentation supporting Duke Energy's remediation of the Site and successful and complete compliance with this Consent Agreement. Once the Department has approved the Final Report, the Department will provide Duke Energy a written approval of completion that provides a Covenant Not to Sue to Duke Energy for the response actions specifically covered in this Consent Agreement, approved by the Department and completed in accordance with the approved work plans and reports.
11. Notwithstanding any other provision of this Consent Agreement, including the Covenant Not to Sue, the Department reserves the right to require Duke Energy to perform any additional work at the Site or to reimburse the Department for additional work if Duke Energy declines to undertake such work, if: (i) conditions at the Site, previously unknown to the Department, are discovered after completion of the work approved by the Department pursuant to this Consent Agreement and warrant further assessment or remediation to address a release or threat of a release in order to protect human health or the environment, or (ii) information is received, in whole or in part, after completion of the work approved by the Department pursuant to this Consent Agreement, and these previously unknown conditions or this

information indicates that the completed work is not protective of human health and the environment. In exigent circumstances, the Department reserves the right to perform the additional work and Duke Energy will reimburse the Department for the work.

12. In consideration for the Department's Covenant Not to Sue, Duke Energy agrees not to assert any claims or causes of action against the Department arising out of response activities undertaken at the Site, or to seek any other costs, damages or attorney's fees from the Department arising out of response activities undertaken at the Site except for those claims or causes of action resulting from the intentional or grossly negligent acts or omissions of the Department. However, Duke Energy reserves all available defenses, not inconsistent with this Consent Agreement, to any claims or causes of action asserted against Duke Energy arising out of response activities undertaken at the Site by the Department.
13. Submit to the Department a written monthly progress report within thirty (30) days of the execution of this Consent Agreement and once every month thereafter until completion of the work required under this Consent Agreement. The progress reports shall include the following: (a) a description of the actions which Duke Energy has taken toward achieving compliance with this Consent Agreement during the previous month; (b) results of sampling and tests, in summary format received by Duke Energy during the reporting period; (c) description of all actions which are scheduled for the next month to achieve compliance with this Consent Agreement, and other information relating to the progress of the work as deemed necessary or requested by the Department; and (d) information regarding the percentage of work completed and any delays encountered or anticipated that may affect the approved schedule for implementation of the terms of this Consent Agreement, and a description of efforts made to mitigate delays or avoid anticipated delays
14. Prepare all Plans and perform all activities under this Consent Agreement following appropriate DHEC and EPA guidelines. All Plans and associated reports shall be prepared



in accordance with industry standards and endorsed by a Professional Engineer (P.E.) and/or Professional Geologist (P.G.) duly-licensed in South Carolina. Unless otherwise requested, one (1) paper copy and one (1) electronic copy (.pdf format) of each document prepared under this Consent Agreement shall be submitted to the Department's Project Manager. Unless otherwise directed in writing, all correspondence, work plans and reports should be submitted to the Department's Project Manager at the following address:

Tim Hornosky  
South Carolina Department of Health and Environmental Control  
Bureau of Land and Waste Management  
2600 Bull Street  
Columbia, South Carolina 29201  
hornostr@dhec.sc.gov

15. Reimburse the Department on a quarterly basis, for all past, present and future costs, direct and indirect, incurred by the Department pursuant to this Consent Agreement and as provided by law. Oversight Costs include, but are not limited to, the direct and indirect costs of negotiating the terms of this Consent Agreement, reviewing plans and reports, supervising corresponding work and activities, and costs associated with public participation. The Department shall provide documentation of its Oversight Costs in sufficient detail so as to show the personnel involved, amount of time spent on the project for each person, expenses, and other specific costs. Payments are due to the Department within thirty (30) days of the date of the Department's invoice; however, it is not a violation of this Consent Agreement if late payment is cured within thirty (30) additional days.

16. Notify the Department in writing at least five (5) days before the scheduled deadline if any event occurs which causes or may cause a delay in meeting any of the above-scheduled dates for completion of any specified activity pursuant to this Consent Agreement. Duke Energy shall describe in detail the anticipated length of the delay, the precise cause or

causes of delay, if ascertainable, the measures taken or to be taken to prevent or minimize the delay, and the timetable by which Duke Energy proposes that those measures will be implemented. The Department shall provide written notice to Duke Energy as soon as practicable that a specific extension of time has been granted or that no extension has been granted. An extension shall be granted for any scheduled activity delayed by an event of *force majeure* which shall mean any event arising from causes beyond the control of Duke Energy that causes a delay in or prevents the performance of any of the conditions under this Consent Agreement including, but not limited to: a) acts of God, fire, war, insurrection, civil disturbance, explosion; b) adverse weather conditions that could not be reasonably anticipated causing unusual delay in transportation and/or field work activities; c) restraint by court order or order of public authority; d) inability to obtain, after exercise of reasonable diligence and timely submittal of all required applications, any necessary authorizations, approvals, permits, or licenses due to action or inaction of any governmental agency or authority; and e) delays caused by compliance with applicable statutes or regulations governing contracting, procurement or acquisition procedures, despite the exercise of reasonable diligence by Duke Energy. Events which are not *force majeure* include by example, but are not limited to, unanticipated or increased costs of performance, changed economic circumstances, normal precipitation events, or failure by Duke Energy to exercise due diligence in obtaining governmental permits or performing any other requirement of this Consent Agreement or any procedure necessary to provide performance pursuant to the provisions of this Consent Agreement. Any extension shall be granted at the sole discretion of the Department, incorporated by reference as an enforceable part of this Consent Agreement, and, thereafter, be referred to as an attachment to the Consent Agreement.

17. Employees of the Department, their respective consultants and contractors will not be denied access during normal business hours or at any time work under this Consent Agreement is

being performed or during any environmental emergency or imminent threat situation, as determined by the Department or as allowed by applicable law.

IT IS AGREED THAT this Consent Agreement shall be binding upon and inure to the benefit of Duke Energy and its officers, directors, agents, receivers, trustees, heirs, executors, administrators, successors, and assigns and to the benefit of the Department and any successor agency of the State of South Carolina that may have responsibility for and jurisdiction over the subject matter of this Consent Agreement. Duke Energy may not assign its rights or obligations under this Consent Agreement without the prior written consent of the Department.

IT IS FURTHER AGREED that failure to meet any deadline or to perform the requirements of this Consent Agreement without an approved extension of time and failure to timely cure as noted below, may be deemed a violation of the Pollution Control Act, the South Carolina Hazardous Waste Management Act and/or the Solid Waste Management and Policy Act, as amended. Upon ascertaining any such violation, the Department shall notify Duke Energy in writing of any such deemed violation and that appropriate action may be initiated by the Department in the appropriate forum to obtain compliance with the provisions of this Consent Agreement and the aforesaid Acts. Duke Energy shall have thirty (30) days to cure any deemed violations of this Consent Agreement. Applicable penalties may begin to accrue after issuance of the Department's determination that the alleged violation has not been cured during that thirty (30) day period.

*(Signature Page Follows)*